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Culture of Rhododendrons in New York State

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Choosing a Satisfactory Site

Plant rhododendrons and azaleas where they will be sheltered from strong early morning winter sunlight and protected from the wind. A good planting site is one in which the plants have filtered shade and wind protection. If plants must be set in locations without these features, provide a permanent or temporary protection against wind and sun during the winter months. This protection reduces loss of moisture when the plants are unable to replace it from cold soil.

Avoid planting broadleaf evergreens in any exposures where they will be heavily shaded from sunrise to 9:00 or 10:00 A.M. and then be exposed to strong sunshine.

Locate plants in a site that does not dry too quickly. Avoid planting in unusually narrow areas between a house foundation and a paved walk.

Plant in areas in which there is adequate air circulation. Avoid frost pocket areas such as a closed valley or a depression in which cold air settles.

Plant in well-drained locations. Water that stands for several days can injure or kill submerged roots.

Plant in locations away from competing tree roots. The shallow fibrous roots of elm and maple trees thrive in the cool moist soil under a mulch.

Purchasing the Plants

Rhododendrons are usually sold when one to two feet in height and spread. The plants are offered for sale with a ball of soil about the roots, as *balled* and *burlapped* plants (B & B). They may grow to six feet or more according to the species and local environment. Planting distances will vary from two to 10 feet apart.

Preparing the Soil

Rhododendrons and ericaceous plants require a well-aerated and well-drained soil that is high in organic matter. Plant in the following soil mixtures prepared at planting time.

For well-drained loamy soil, mix about 50 percent, by volume, of this soil with 50 percent peat moss for the backfill. This mixture will encourage initial growth of the plant after transplanting. In preparing areas where several plants are grouped together, peat moss can be incorporated directly into the soil to approximate half soil and half peat mix (figure 1).

For very sandy soils that are likely to be low in fertility and moisture holding capacity, discard the sandy soil and mix about 50 percent of a garden loam and 50 percent peat moss as a backfill for individual plants. Mulch the area generously (figure 2).

If the sandy soil is excessively drained, backfill with a mixture of a fertile loam and peat moss to a depth of two to three feet and double the diameter of the hole to increase the water holding capacity of the soil, *or* choose other plants better adapted to sandy soil. (Soil is excessively drained if water drains away repeatedly in less than three minutes from test holes of post hole size two- to three-feet deep.)

For poorly aerated soils, as in some clays, use a mixture of 50 percent peat moss, 25 percent sand, and 25 percent soil, or use 100 percent peat moss.

If poor drainage is an additional problem in clay soils, there are two possibilities: Bring in enough of the above soil mixture to make a raised planting at least six feet wide and 12 inches or more deep. It may be kept in place by a low retaining wall or by sloping it gradually to the ground surface and planting a ground cover or grass on the slope. Plant the rhododendron above the clay soil, directly in this sand-soil-peat mixture (figure 3). As an alternative, install drainage tile to a depth of two feet or more and backfill with the above soil mixture.

Planting Procedure

April and May are good months for planting rhododendrons, azaleas, and other broadleaf evergreen plants in New York State. Satisfactory plantings of balled and burlapped plants also may be made at other times in warmer parts of the State.

The actual step-by-step operation in ground beds, or in raised beds in poor soil areas, is as follows:

Dig the hole before the shrub is delivered to the site in order to plant immediately. The hole should be a few inches larger and deeper than the ball.

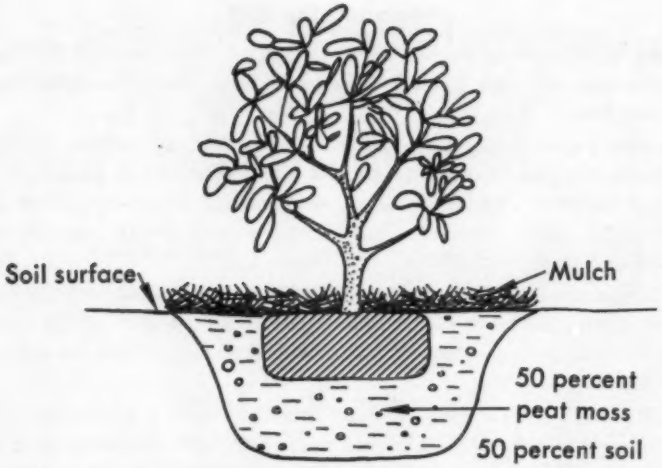

Figure 1. A ground bed in well-drained, loamy soil to which organic matter has been added.

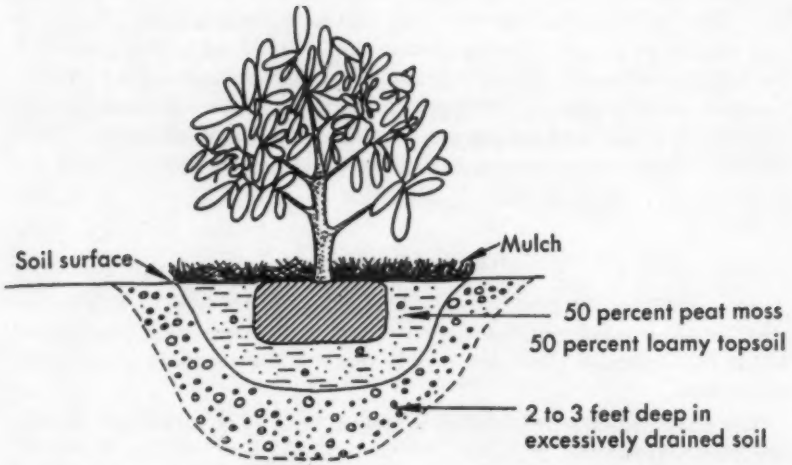

Figure 2. A ground bed in very sandy soil that has been modified to improve fertility and moisture-holding capacity.

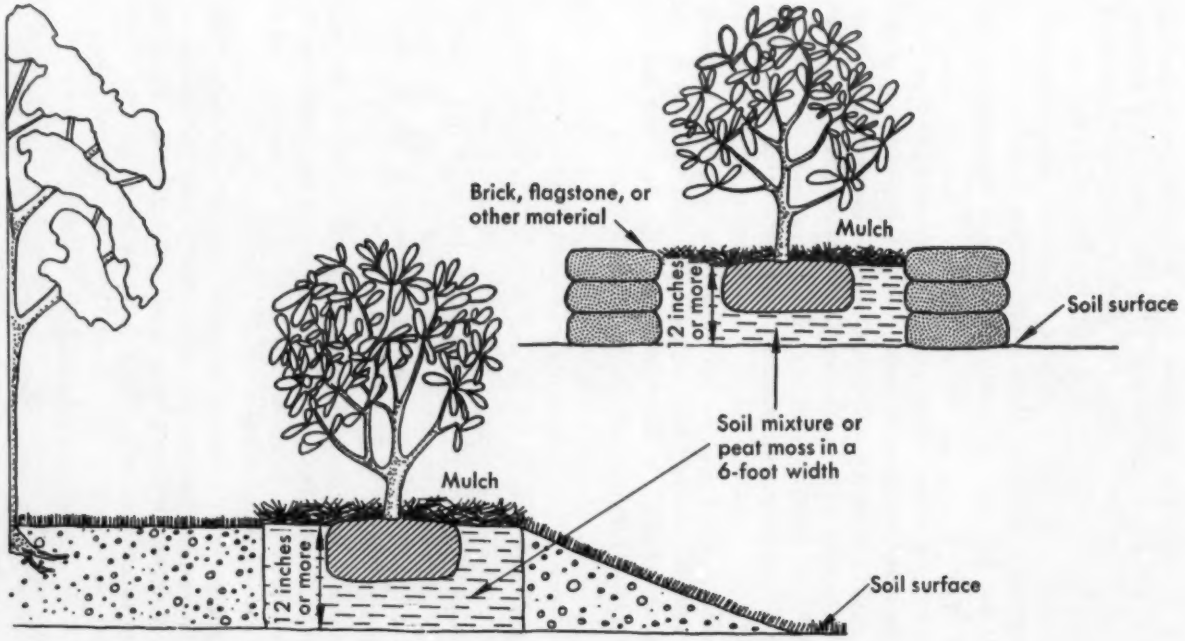

Figure 3. Two examples of raised beds for clays and other soils of poor structure.

Place selected soil mixture in the bottom of the hole. Place the plant in the hole and rest the ball on the soil mixture. The plant should be at the same depth as it was in its previous location. This depth is determined by the top of the burlap, which should be an inch or so below the final soil surface.

Fill the hole about ⅓ full with the prepared soil mixture. Set the plant with the best side showing to advantage. Firm the soil mixture carefully.

Fill the hole half full with soil mixture. Fill the hole with water to settle the soil around the ball.

Cut the cord from the stem at the top of the ball; leave burlap in place.

Fill in the rest of the hole with soil mixture. Firm the soil with hand or foot or by tamping with shovel handle. Make a cup-like area on top to permit water to flow towards the plant. (Level this area with the surrounding grade before extreme cold sets in the following fall.)

Water the soil again. Spray the plant and the soil for several hours with a garden sprinkler.

Apply a three-inch mulch over the soil surface. Use peat moss, weathered woodchips or weathered sawdust; finish off the surface with oak leaves or pine needles if they are available. In sunny places, shade the plants with lath or a burlap screen for several days.

Mulching

Mulches tend to decompose rapidly on soils fertile enough to support large populations of bacteria. It is necessary to add new mulch each autumn when leaves fall from the trees. Use 10 to 12 inches of dry leaf mulch (oak is preferable) or enough pine needles to maintain a two-to three-inch layer. Peat moss, weathered woodchips or weathered sawdust, three-inches deep, may be subsitituted for the pine needles.

Azaleas and similar plants that have been mulched with sawdust or peat moss sometimes fail to develop mature stem tissue where they are touched by the mulch. Serious injury may follow in early frost. This is especially true if gardens are in low areas or frost pockets.

In order for these plants to become sufficiently hardened to withstand early frost damage, move mulch materials two to three inches away from the base of the stem in mid-August. This will allow time for the bark and wood of the plant to dry and mature before early fall frosts can cause injury.

Fertilizing

Do not fertilize at planting time. About a month after planting, apply sulfate of ammonia at no more than ½ to one pound per 100 square feet. Sulfate of

ammonia is a readily soluble fertilizer which makes ionic elements immediately available for absorption. Because it is strong, use it only at this recommended rate. Water the soil well after applying ammonium sulfate. (A fertilizer especially prepared for broadleaf evergreens may be used as a substitute for sulfate of ammonia if $\frac{1}{3}$ of the nitrogen is in the ammonium form. Use at the manufacturer's recommended rate.) After one application, apply no fertilizer until the next year.

In each successive spring season, at the first signs of growth, fertilize established plants with one of the materials below. Water it in. Repeat the application a month later and water in. The following rates are used:

Apply no more than $\frac{1}{2}$ to one pound of sulfate of ammonia (ammonium sulfate) to 100 square feet. One month later, apply $\frac{1}{4}$ to $\frac{1}{2}$ pound ammonium sulfate to 100 square feet; *or* use a fertilizer especially prepared for broadleaf evergreens if $\frac{1}{3}$ of the nitrogen is in the ammonium form. Use at rates recommended by the manufacturer.

Watering

Water the soil each week during May and June to help produce maximum growth in spring. Slowly apply three gallons of water for every five square feet of garden. This approximates $\frac{1}{3}$ of a month's rainfall. If very heavy rains have created sufficiently wet conditions, watering is not necessary temporarily. Except at such very moist times, rhododendrons and azaleas benefit from regular weekly waterings of the soil in May and June. Water throughout the summer if the soil is quite dry (if rainfall deficits of more than two inches are reported by the local weather bureau).

In late November, give the soil a very heavy watering to help prevent its drying out during winter.

Removing Competing Plants

Remove weeds and competing plants by hand. A mulch makes this easier to do. Because the rhododendrons and azaleas are shallow rooted, do not cultivate around them, for cultivation will destroy some of the feeder roots and dry out the loosened soil.

Roots from trees grow well beyond the spread of their branches. The shallow roots of maple, elm, poplar, and other species invade mulched areas. Oak, hickory, pine, hemlock, and other deep rooting types are better companion plants for rhododendrons and other broadleaf evergreens. Thin out the crown of these trees to remove excessive shade.

Pruning

As dead, broken, or diseased wood appears on rhododendrons, cut it off to the first healthy branch. Little additional pruning of these plants is necessary, except to keep them in scale with the landscape effect. Many persons remove the old flower trusses to prevent seed formation.

In the case of old leggy plants, it may be advisable to cut the plant back to a foot or less from the ground at the earliest opportunity in spring. New branches will form from dormant and sometimes from adventitious buds. In a few years, the plant should flower again as a full shapely bush with a minimum of annual heading back of side branches to thicken young growth.

Summary

To grow rhododendrons, azaleas, and broadleaf evergreens in New York State, the following environmental conditions are required: minimum winter temperatures above those critical for the species and variety (cultivar); porous well-drained soil with high moisture holding ability and, preferably, with high organic content and acid reaction; protection from wind and sun by partial shade; a mulch of such insulating materials as peat moss, sawdust, or leaves, or a living cover such as myrtle, pachysandra, or English ivy; freedom from competition with roots of elm or maple trees; and protection from pests and diseases.

Recommendations on insect and disease control of these plants are available from your County Agricultural Extension Service.

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